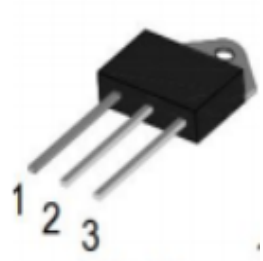
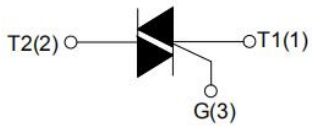
BTA41−600BRG

DESCRIPTION:

with high ability to withstand theshock loading of large current,BTA41 series triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.BTA41 provides insulation voltage rated at 2500V RMS from all three terminals to external heatsink complying with UL standards.



TO-3P
Insulated



MAIN FEATURES

symbol	value	unit
$I_{T(RMS)}$	40.0	A
V_{DRM}/V_{RRM}	600	V

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40~150	℃
Operating junction temperature range	T_j	-40~125	℃
Repetitive peak off-state voltage (T_j=25℃)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25℃)	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	400	A
I^2t value for fusing (t_p=10ms)	I^2t	880	A^2s
Critical rate of rise of on-state current (I_G=2×I_{GT})	dI/dt	50	A/μs
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W

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ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

3 Quadrants

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	V_D=12V, R_L=33Ω	Ⅰ-Ⅱ-Ⅲ	MAX	50	mA
V_{GT}				1.3	V
V_{GD}	V_D=V_{DRM} T_j=125℃	Ⅰ-Ⅱ-Ⅲ	MIN	0.2	V
I_H	I_T=100mA		MAX	60	mA
I_L	I_G=1.2I_{GT}	Ⅰ-Ⅲ	MAX	80	mA
		Ⅱ		100	
dV/dt	V_D=2/3V_{DRM} T_j=125℃ Gate open		MIN	1000	V/μs

4 Quadrants

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	V_D=12V, R_L=33Ω	Ⅰ-Ⅱ-Ⅲ	MAX	50	mA
		Ⅳ		70	mA
V_{GT}		ALL		1.3	V
V_{GD}	V_D=V_{DRM} T_j=125℃	ALL	MIN	0.2	V
I_H	I_T=100mA		MAX	60	mA
I_L	I_G=1.2I_{GT}	Ⅰ-Ⅲ-Ⅳ	MAX	80	mA
		Ⅱ		100	
dV/dt	V_D=2/3V_{DRM} T_j=125℃ Gate open		MIN	1000	V/μs

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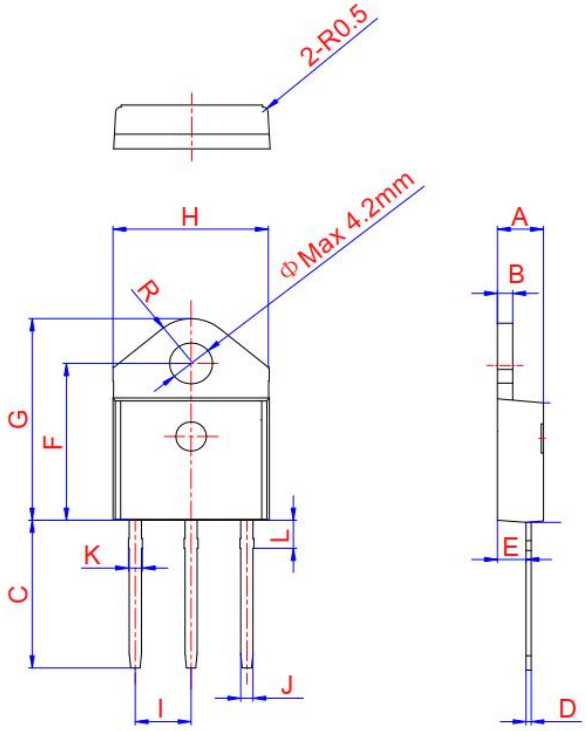
PACKAGE MECHANICAL DATA



TO-3P Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.171	

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FIG.1: Maximum power dissipation versus RMS on-state current

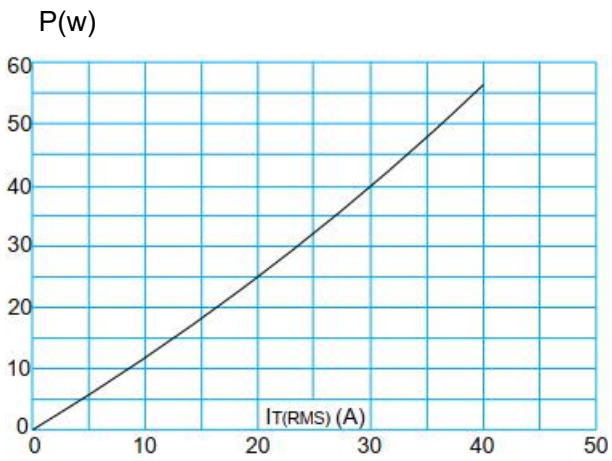


FIG.2: RMS on-state current versus case temperature

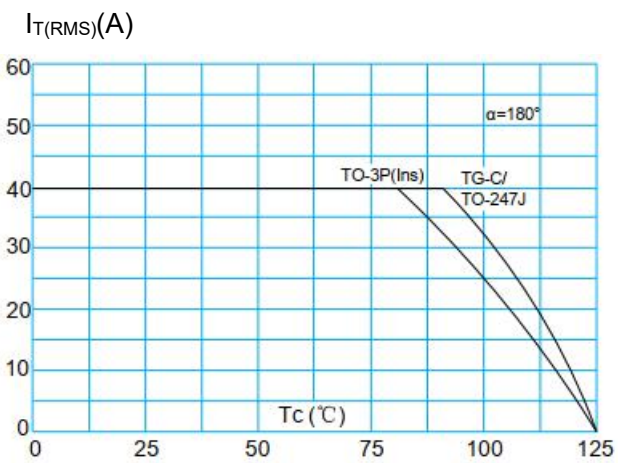


FIG.3: Surge peak on-state current versus number of cycles

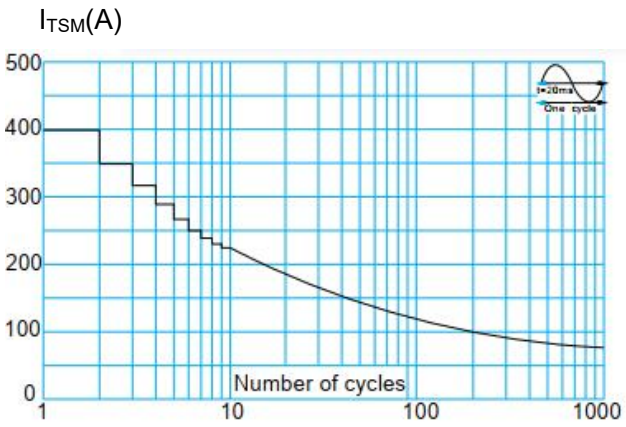


FIG.4: On-state characteristics (maximum values)

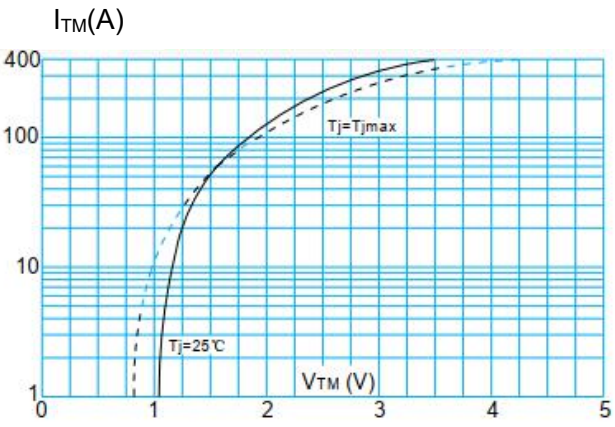


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (Ⅰ-Ⅱ-Ⅲ:dI/dt < 50A/μs;Ⅳ:dI/dt < 10A/μs)

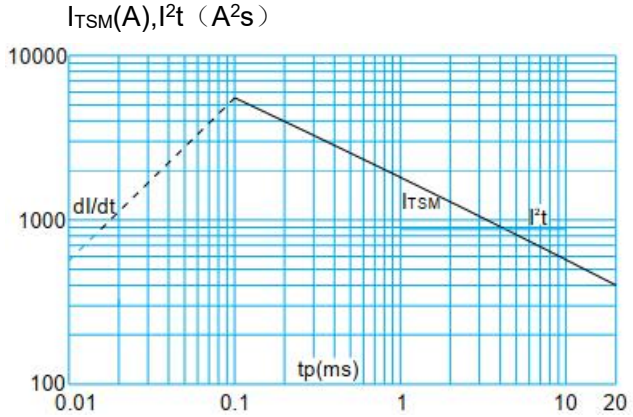
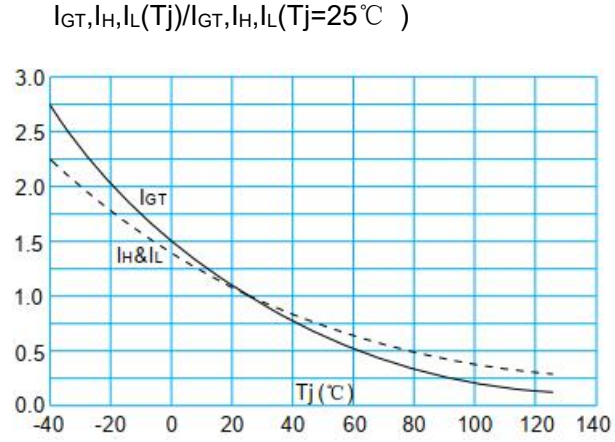


FIG.6: Relative variations of gate trigger current,holding current and latching current versus iunction temperature



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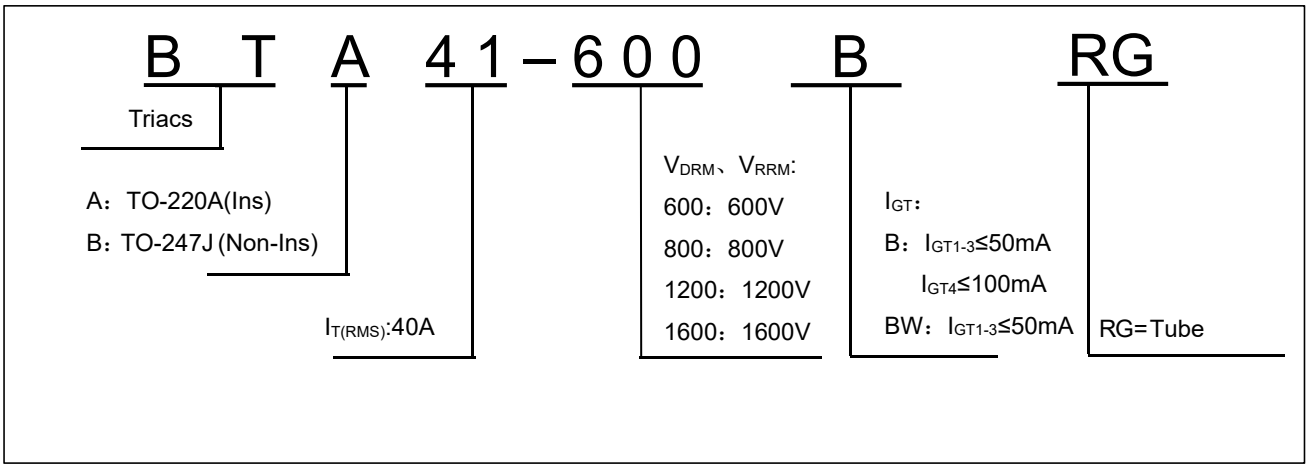
ORDERING INFORMATION



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